

FILE 'CAPLUS' ENTERED AT 17:13:34 ON 02 JUN 2008

L1 125 S "FATTY ACID NITRILE" OR "FATTY ACID DERIVED NITRILE" OR "FATT
L2 203263 S AMIDE OR "STRONG ACID"
L3 20 S L1 AND L2
L4 3 S US2001-534156/APPS
L5 1 S L3 AND L4
L6 19 S L3 NOT L5

=> d 15 bib abs

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:453151 CAPLUS <<LOGINID::20080602>>

DN 141:25327

TI Purification-decolorization treatment for fatty nitriles for the removal
of long-chain carboxamides

IN Telschow, Jeffrey Earl

PA Akzo Nobel N.V., Neth.

SO PCT Int. Appl., 13 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------|--|----------|------------------|--------------|
| PI | WO 2004046067 | A2 | 20040603 | WO 2003-EP12834 | 20031113 |
| | WO 2004046067 | A3 | 20040722 | | |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| | RW: | BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| | AU 2003299293 | A1 | 20040615 | AU 2003-299293 | 20031113 |
| | EP 1560808 | A2 | 20050810 | EP 2003-799464 | 20031113 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | |
| | BR 2003016217 | A | 20050927 | BR 2003-16217 | 20031113 |
| | CN 1711238 | A | 20051221 | CN 2003-80103357 | 20031113 |
| | JP 2006506429 | T | 20060223 | JP 2004-552623 | 20031113 |
| | US 20060030726 | A1 | 20060209 | US 2005-534156 | 20050505 <-- |
| | IN 2005CN00906 | A | 20070810 | IN 2005-CN906 | 20050512 |
| | MX 2005PA05155 | A | 20050722 | MX 2005-PA5155 | 20050513 |
| PRAI | US 2002-426537P | P | 20021115 | | |
| | WO 2003-EP12834 | W | 20031113 | | |

AB A process for the removal of impurities comprising amides, but which may include other impurities such as amines, from a solution of the fatty acid nitriles and impurities is described in which the impure nitrile is contacted with a strong acid to remove the amide as a salt in the acid layer. The thus-treated nitrile is then subjected to phase separation and treated with an adsorbent (e.g., bentonite clay).

=> d 16 tot bib abs

L6 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:208232 CAPLUS <<LOGINID::20080602>>

DN 134:239307

TI Method for producing fatty acid amides by the reaction of fatty acid esters with ammonia

IN Gutsche, Bernhard; Sicre, Christophe; Armengaud, Rene; Rigal, Jean; Wollmann, Gerhard

PA Cognis Deutschland G.m.b.H., Germany

SO PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|------------------|----------|
| | ----- | --- | ----- | ----- | ----- |
| PI | WO 2001019781 | A1 | 20010322 | WO 2000-EP8724 | 20000907 |
| | W: JP, KR, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | DE 19944418 | A1 | 20010322 | DE 1999-19944418 | 19990916 |
| | EP 1212290 | A1 | 20020612 | EP 2000-974367 | 20000907 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY | | | | |
| | JP 2003509402 | T | 20030311 | JP 2001-523362 | 20000907 |
| PRAI | DE 1999-19944418 | A | 19990916 | | |
| | WO 2000-EP8724 | W | 20000907 | | |

AB Fatty acid amides are prepared from fatty acid alkyl esters and ammonia in the presence of a catalyst and in this method, substantially water and fatty acid-free esters are used and the catalyst is a compound of tetravalent tin (e.g., dibutyltin oxide) that is soluble in the reaction mixture. The method is carried out at low pressure, with short reaction times and to a large extent, without the formation of byproducts.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2008 ACS ON STN

AN 1992:20690 CAPLUS <<LOGINID::20080602>>

DN 116:20690

OREF 116:3643a,3646a

TI Method for manufacturing fatty acid nitriles

and glycerin by ammonolysis of glycerides with alcohol scrubbing

IN Miesiac, Ireneusz; Szymanowski, Jan; Jerzykiewicz, Wojciech; Gebura, Jaroslaw

PA Politechnika Poznanska, Pol.; Instytut Ciekkiej Syntezy Organicznej "Blachownia"

SO Pol., 10 pp. Abstracted and indexed from the unexamined application.

CODEN: POXXA7

DT Patent

LA Polish

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | --- | ----- | ----- | ----- |
| PI | PL 153523 | B1 | 19910430 | PL 1987-269513 | 19871215 |
| PRAI | PL 1987-269513 | | 19871215 | | |

AB Fatty nitriles and glycerin (I) are prepared by ammonolysis of glycerides (especially natural fats and oils) with NH₃(g) and a catalyst at 220-300°, whereby the reaction aerosol is absorbed by a polar organic solvent (especially a lower aliphatic alc.) optionally containing ≤80% (vs. total weight) nonpolar solvent. Distillation of solvent from the condensate

gives

a crude product which is separated into a nitrile phase and an aqueous I phase. Separation may involve neutralization or acidification with CO₂ or SO₂. Thus, 100 g beef tallow was heated with 2 g Zn dodecylbenzenesulfonate under

NH3(g) at 50 dm3/h for 3 h with the exit gases being scrubbed by MeOH containing 10% benzene. Evaporation of solvent from the condensate gave 92 g crude

product as an emulsion, which was broken by 4 g NaCl to give 83% nitrile fraction (containing 7.3% amide) and 13 g aqueous I containing 53.7% I. Addition of CO2 and SO2 to the emulsion also gave separation

L6 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1989:156506 CAPLUS <<LOGINID::20080602>>

DN 110:156506

OREF 110:25883a,25886a

TI Process for the manufacture of glycerin and fatty acid -derived nitriles from the reaction of glycerides with excess ammonia

IN Stuehler, Herbert; Fischer, Kurt

PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 10 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | DE 3639857 | A1 | 19880601 | DE 1986-3639857 | 19861121 |
| | IN 168556 | A1 | 19910427 | IN 1987-CA820 | 19871021 |
| | EP 273173 | A2 | 19880706 | EP 1987-116921 | 19871117 |
| | EP 273173 | A3 | 19880720 | | |
| | EP 273173 | B1 | 19910703 | | |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| | AT 64922 | T | 19910715 | AT 1987-116921 | 19871117 |
| | DD 262859 | A5 | 19881214 | DD 1987-309214 | 19871119 |
| | US 4801730 | A | 19890131 | US 1987-122403 | 19871119 |
| | DK 8706106 | A | 19880522 | DK 1987-6106 | 19871120 |
| | NO 8704853 | A | 19880524 | NO 1987-4853 | 19871120 |
| | NO 165394 | B | 19901029 | | |
| | NO 165394 | C | 19910206 | | |
| | AU 8781449 | A | 19880526 | AU 1987-81449 | 19871120 |
| | AU 598881 | B2 | 19900705 | | |
| | CN 87107926 | A | 19880601 | CN 1987-107926 | 19871120 |
| | CN 1014605 | B | 19911106 | | |
| | JP 63150235 | A | 19880622 | JP 1987-292242 | 19871120 |
| | BR 8706262 | A | 19880628 | BR 1987-6262 | 19871120 |
| | ZA 8708694 | A | 19880831 | ZA 1987-8694 | 19871120 |
| | SU 1551243 | A3 | 19900315 | SU 1987-4203696 | 19871120 |
| | IL 84547 | A | 19920216 | IL 1987-84547 | 19871120 |
| | CA 1305182 | C | 19920714 | CA 1987-552315 | 19871120 |
| PRAI | DE 1986-3639857 | A | 19861121 | | |
| | EP 1987-116921 | A | 19871117 | | |

AB Fatty acid-derived nitriles and

glycerin are prepared by the reaction of glycerides with 200 L NH3/kg glyceride-h at 220-230° in the presence of a specialized catalyst, producing a reaction mixture containing water, glycerin, fatty acids, fatty

acid

amides, and fatty acid-derived nitriles. The glycerin and water are removed and the carboxylic acids and derivs. recycled and reacted with 5-150 L NH3 at 240-320°, producing fatty acid-derived nitriles of high purity.

L6 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1986:209168 CAPLUS <<LOGINID::20080602>>

DN 104:209168
 OREF 104:33157a,33160a
 TI Separation of amides from nitriles
 IN Frank, Dieter; Metcalfe, Lincoln D.; Park, John Y. G.
 PA Akzona Inc., USA
 SO U.S., 13 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | US 4575434 | A | 19860311 | US 1984-656083 | 19840928 |
| | EP 177097 | A1 | 19860409 | EP 1985-201535 | 19850925 |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | | |
| | NO 8503820 | A | 19860401 | NO 1985-3820 | 19850927 |
| | AU 8547982 | A | 19860410 | AU 1985-47982 | 19850927 |
| | ES 547371 | A1 | 19860601 | ES 1985-547371 | 19850927 |
| | JP 61126063 | A | 19860613 | JP 1985-212737 | 19850927 |
| | BR 8504757 | A | 19860722 | BR 1985-4757 | 19850927 |
| | CA 1260495 | A1 | 19890926 | CA 1985-491786 | 19850927 |
| PRAI | US 1984-656083 | A | 19840928 | | |

OS MARPAT 104:209168

AB Impurities comprising amides are removed from fatty acid-derived nitriles by contacting a solution of the nitriles and impurities with a layered mineral, comprising an Al silicate containing exchangeable cations, and an acid such as H₂SO₄ which protonates the amides and forms an insol. salt with the exchange cations, followed by separation of the nitriles from the mixture, especially with a rotary drum vacuum filter. The water content in the reaction mixture is ≤0.5%. Thus, 550 lb. tallow nitrile having amide content 0.38% and Gardner color 5.5 was treated in a stirred reactor at 60°/74 mm with 7% Ca bentonite (12% H₂O content) and 0.7% H₂SO₄, agitated 30 min, and filtered with a rotary drum vacuum filter at 200 mm. The first filtrate was agitated with 2% fresh neutral clay at 60° for 20 min and vacuum filtered. The purified tallow nitrile was a clear liquid having Gardner color <1, no bad odor, and amide content 0.1%.

L6 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1980:221693 CAPLUS <<LOGINID::20080602>>

DN 92:221693

OREF 92:35779a,35782a

TI Prediction of liquid-liquid equilibria for ternary systems by the ASOG method

AU Tochigi, Katsumi; Hiraga, Mayumi; Kojima, Kazuo

CS Dep. Ind. Chem., Nihon Univ., Tokyo, 101, Japan

SO Journal of Chemical Engineering of Japan (1980), 13(2), 159-62

CODEN: JCEJQAQ; ISSN: 0021-9592

DT Journal

LA English

AB Liquid-liquid equilibrium were predicted for 31 ternary systems (25-40°) by using the ASOG (Anal. Solns. of Groups) method to predict activity coeffs. Results for systems containing hydrocarbons, H₂O, alcs., ketones, esters, fatty acids, nitriles, and amides showed that the ASOG approach has the advantage of simplicity.

L6 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1979:594935 CAPLUS <<LOGINID::20080602>>

DN 91:194935

OREF 91:31399a,31402a

TI Fatty acid nitriles and glycerin from
glycerides from natural fats and oils
IN Billenstein, Siegfried; Kukla, Bruno; Stuehler, Herbert
PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 11 pp. Addn. to Ger. Offen. 2,737,607.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 3

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------|------|----------|-----------------|----------|
| PI | DE 2813204 | A1 | 19791004 | DE 1978-2813204 | 19780325 |
| | ES 472553 | A1 | 19790216 | ES 1978-472553 | 19780814 |
| | IN 150312 | A1 | 19820911 | IN 1978-CA889 | 19780814 |
| | RO 77028 | A1 | 19810622 | RO 1978-94982 | 19780815 |
| | EP 916 | A1 | 19790307 | EP 1978-100666 | 19780816 |
| | EP 916 | B1 | 19810520 | | |
| | R: BE, CH, DE, FR, GB, LU, NL, SE | | | | |
| | DD 138311 | A5 | 19791024 | DD 1978-207321 | 19780816 |
| | FI 7802516 | A | 19790221 | FI 1978-2516 | 19780817 |
| | FI 63961 | B | 19830531 | | |
| | FI 63961 | C | 19830912 | | |
| | JP 54041806 | A | 19790403 | JP 1978-99578 | 19780817 |
| | JP 62046530 | B | 19811002 | | |
| | DK 7803679 | A | 19790221 | DK 1978-3679 | 19780818 |
| | DK 159064 | B | 19900827 | | |
| | DK 159064 | C | 19910121 | | |
| | NO 7802821 | A | 19790221 | NO 1978-2821 | 19780818 |
| | NO 147271 | B | 19821129 | | |
| | NO 147271 | C | 19830316 | | |
| | BR 7805331 | A | 19790424 | BR 1978-5331 | 19780818 |
| | AU 7839076 | A | 19800221 | AU 1978-39076 | 19780818 |
| | AU 519437 | B2 | 19811203 | | |
| | AT 7806007 | A | 19800515 | AT 1978-6007 | 19780818 |
| | AT 359991 | B | 19801210 | | |
| | CS 202509 | B2 | 19810130 | CS 1978-5425 | 19780818 |
| | IL 55385 | A | 19820228 | IL 1978-55385 | 19780818 |
| | HU 22921 | A2 | 19820728 | HU 1978-HO2097 | 19780818 |
| | HU 180472 | B | 19830328 | | |
| | SU 971092 | A3 | 19821030 | SU 1978-2650552 | 19780818 |
| | CA 1135722 | A1 | 19821116 | CA 1978-309619 | 19780818 |
| | PL 191196 | B1 | 19811231 | PL 1978-209133 | 19780819 |
| | US 4234509 | A | 19801118 | US 1979-32753 | 19790424 |
| PRAI | DE 1977-2737607 | A | 19770820 | | |
| | DE 1978-2813204 | A | 19780325 | | |
| | US 1978-933955 | A2 | 19780815 | | |

AB In the manufacture of fatty nitriles from glycerides (e.g., tallow) and NH₃, the fatty nitrile phase is separated from the glycerol (I) [56-81-5] and treated with NH₃ to convert the small amts. of amides and acids in the nitrile phase to nitriles, giving nitriles with high purity. Thus, 500 g tallow containing 2% Zn dodecylbenzenesulfonate was treated with NH₃ at 230-60° to prepare nitriles. The crude nitrile phase was separated from I, heated to 290°, and treated with NH₃ to give 417 g nitriles with amide content 0.05% and acid value 0.1. The yield of I was 42.9 g.

L6 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2008 ACS ON STN

AN 1979:186413 CAPLUS <<LOGINID::20080602>>

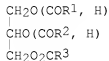
DN 90:186413

OREF 90:29609a,29612a

TI Fatty acid nitriles and glycerol from
glycerides
IN Billenstein, Siegfried; Kukla, Bruno; Staehler, Herbert
PA Fed. Rep. Ger.
SO Ger. Offen., 20 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 3

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------------------|------|----------|-----------------|----------|
| PI | DE 2737607 | A1 | 19790301 | DE 1977-2737607 | 19770820 |
| | ES 472553 | A1 | 19790216 | ES 1978-472553 | 19780814 |
| | IN 150312 | A1 | 19820911 | IN 1978-CA889 | 19780814 |
| | RO 77028 | A1 | 19810622 | RO 1978-94982 | 19780815 |
| | EP 916 | A1 | 19790307 | EP 1978-100666 | 19780816 |
| | EP 916 | B1 | 19810520 | | |
| | R: BE, CH, DE, FR, GB, LU, NL, SE | | | | |
| | DD 138311 | A5 | 19791024 | DD 1978-207321 | 19780816 |
| | FI 7802516 | A | 19790221 | FI 1978-2516 | 19780817 |
| | FI 63961 | B | 19830531 | | |
| | FI 63961 | C | 19830912 | | |
| | JP 54041806 | A | 19790403 | JP 1978-99578 | 19780817 |
| | JP 62046530 | B | 19871002 | | |
| | DK 7803679 | A | 19790221 | DK 1978-3679 | 19780818 |
| | DK 159064 | B | 19900827 | | |
| | DK 159064 | C | 19910121 | | |
| | NO 7802821 | A | 19790221 | NO 1978-2821 | 19780818 |
| | NO 147271 | B | 19821129 | | |
| | NO 147271 | C | 19830316 | | |
| | BR 7805331 | A | 19790424 | BR 1978-5331 | 19780818 |
| | ZA 7804717 | A | 19790829 | ZA 1978-4717 | 19780818 |
| | AU 7839076 | A | 19800221 | AU 1978-39076 | 19780818 |
| | AU 519437 | B2 | 19811203 | | |
| | AT 7806007 | A | 19800515 | AT 1978-6007 | 19780818 |
| | AT 359991 | B | 19801210 | | |
| | CS 202509 | B2 | 19810130 | CS 1978-5425 | 19780818 |
| | IL 55385 | A | 19820228 | IL 1978-55385 | 19780818 |
| | HU 22921 | A2 | 19820728 | HU 1978-HO2097 | 19780818 |
| | HU 180472 | B | 19830328 | | |
| | SU 971092 | A3 | 19821030 | SU 1978-2650552 | 19780818 |
| | CA 1135722 | A1 | 19821116 | CA 1978-309619 | 19780818 |
| | PL 119196 | B1 | 19811231 | PL 1978-209133 | 19780819 |
| | US 4234509 | A | 19801118 | US 1979-32753 | 19790424 |
| PRAI | DE 1977-2737607 | A | 19770820 | | |
| | DE 1978-2813204 | A | 19780325 | | |
| | US 1978-933955 | A2 | 19780815 | | |

GI



I

AB Fatty acid nitriles R1(R2,R3)CN (R1, R2, R3,
the same or different, = C3-23 saturated or unsatd. hydrocarbyl, optionally

OH-substituted) were prepared by treating glycerides I with NH₃ in the liquid phase in the presence of a catalyst, e.g., Pb, Zn, Cd, Fe, Ni, or Co salts of carboxylic or sulfonic acids. Thus, N₂, then NH₃ was passed through tallow and Me(CH₂)₁₁C₆H₄SO₃H zincate at 230-90° over 7 h to give 93.6% tallow fatty acid nitrile (containing 1.8% amide) and 80.2% glycerol.

L6 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1978:172255 CAPLUS <<LOGINID::20080602>>

DN 88:172255

OREF 88:27135a,27138a

TI Aliphatic monocarboxylic acid nitriles

IN Koranis, Jorgos; Krenak, Frantisek

PA Czech.

SO Czech., 3 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------|------|----------|-----------------|----------|
| PI | CS 169169 | B1 | 19760729 | CS 1974-180 | 19740111 |
| PRAI | CS 1974-180 | A | 19740111 | | |

AB C6-22 acids and NH₃ were used to prepare nitriles containing small concns. of amides. Thus, lauric acid [143-07-7] and excess NH₃ were passed over an alumina catalyst at 390° to prepare Me(CH₂)₁₀CN [2437-25-4] containing 0.5-3.0% amide. Hydrogenation of the nitrile in liquid phase gave >95% primary amine [124-22-1]. Stearin and mixts. of coconut fatty acids were also used to prepare 82-96% primary amines.

L6 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1967:65132 CAPLUS <<LOGINID::20080602>>

DN 66:65132

OREF 66:12215a,12218a

TI Fatty acid nitriles

IN Potts, Ralph H.

PA Armour and Co.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | US 3299117 | | 19670117 | US 1966-544642 | 19641005 |

AB A multi-step method for the preparation of the title compds. is described. Into a reactor kept at 180° and 5 kg./cm.² were fed 1000 moles/hr. of a tallow fatty acid (mol. weight 273) and 2000 moles NH₃. The discharge product contained 15.8% free acid, 39.2% amide, and 45% nitrile. This mixture was fed into a reactor at 300° and 1.2 kg./cm.² with a NH₃ flow of 1 mole/hr. to give a product 4.4% free acid, 11% amide, and 84.6% nitrile. After passing this mixture through a reactor at 310° and 0 pressure with 0.5 mole/hr. NH₃, a product containing 1% free acid, 3.6% amide, and 95.4% nitrile was obtained. After vacuum distillation the material contained 0.25% free acid, 1.5% amide. A total of 3.5 moles NH₃ per mole I had been used. The three reactors were preferably filled with dehydration catalysts (Al₂O₃, SiO₂), but packing (Raschig rings) was also effective.

L6 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1966:103553 CAPLUS <<LOGINID::20080602>>

DN 64:103553
 OREF 64:19405b-c
 TI Secondary processes in the preparation of higher unsaturated aliphatic nitriles from fatty acids and ammonia by the liquid-phase method
 AU Tsanev, D.; Benbasat, N.
 SO Godishnik Nauchnoizsled. Inst. Khim. Prom. (1964), 3(2), 49-58
 From: Abstr. Bulgar. Sci. Lit., Chem. 7(2), 8-19 (1964).
 DT Journal
 LA Bulgarian
 AB The following reactions are investigated in the preparation of higher unsatd. aliphatic nitriles by the liquid-phase method: decarboxylation of the fatty acids to ketones, formation of secondary amides, and formation of oligomers. It is shown that the main by products of the process in question are the oligomers of the nitriles. This conclusion is supported by ir spectra. On the basis of this investigation the way to increase the yield of the primary nitriles is clarified.

L6 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1963:447927 CAPLUS <<LOGINID::20080602>>

DN 59:47927
 OREF 59:8602d-e
 TI Nitriles
 IN Potts, Ralph H.
 PA Armour & Co.
 SO 11 pp.
 DT Patent
 LA Unavailable
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|------|
| PI | FR 1320500 | | 19630308 | FR | |
| | GB 981123 | | | GB | |
| PRAI | US | | 19610424 | | |
| AB | Fatty acids and fatty acid amides are converted to nitriles in a continuous process in a series of reactions in the liquid phase. Thus, a fatty acid and a mixture of acids and amides (recycled) are simultaneously introduced into a preheater, the mixture is heated at 170-80°, passed into a preactor containing a dehydration catalyst such as activated alumina, bauxite mineral, or silica gel, NH3 (1.5 moles NH3/mole fatty acid) is heated and introduced into the reactor, and the reactor is pressured to approx. 7 kg./sq. cm. The amide obtained is passed into a preheater, then into another reactor containing a dehydration catalyst under 2.10-2.80 kg./sq. cm. and passed into a preheater where it is mixed with material obtained from the base of the reactor, and the resulting mixture is passed into another reactor under 0.35 1.05 kg./sq. cm. and heated at 300-20°. The mixture is then flash distilled to liberate NH3, and the product distilled in the presence of an alkali such as CaCO3 or Na2CO3 to give the nitriles. | | | | |

L6 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1963:428143 CAPLUS <<LOGINID::20080602>>

DN 59:28143
 OREF 59:5018h,5019a-b
 TI Nitrogen derivatives of long chain fatty acids. I. Synthesis of long chain aliphatic nitriles
 AU Tsanev, D.; Benbasat, N.
 SO Khim. i Ind. (Sofia) (1962), 34(6), 209-11
 DT Journal
 LA Unavailable
 AB Nitriles can be prepared in the liquid phase by bubbling NH3 through fatty acids at high temperature (with or without catalysts), in the vapor phase either

over a stationary dehydrating catalyst or in the boiling layer, and in a combination liquid-vapor phase where the fatty acids form the amides in the liquid phase, and the reaction products together with the H₂O of reaction and excess NH₃ are passed through a vertical convertor packed with Al₂O₃ as a vapor. Using only the liquid phase method, stearonitrile is produced optimally at 300°. Higher temps. cause a greater amount of side reactions. The oleonitrile is prepared at 290° due to the formation of fatty acid dimers. Excess NH₃ significantly accelerates nitrile formation. Up to 6% H₂O in the NH₃ does not interfere with the process. The process equipment should be 99.5% Al or acid-resistant steel, EYA 1-T.

L6 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1959:53857 CAPLUS <<LOGINID::20080602>>

DN 53:53857

OREF 53:9685h-i,9686a-b

TI Complex chromium salts for waterproofing

IN Vallette, P.; Tassel, E.

PA Compagnie francaise des matieres colorantes

DT Patent

LA Unavailable

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | FR 1110678 | | 19560215 | FR | 19531105 |
| AB | The complex Cr salts are obtained by treating, if desired, in the presence of a substance oxidizable by hexivalent Cr, a solution in an inert organic solvent of a compound containing an OH, O:, COOH, COOR, CONH ₂ , CN, or SH group, said solution containing Cr(OH) ₃ or an alkali metal or alkaline earth dichromate, with a gaseous hydrogen halide or with nitrous gases. Suitable organic substances include fatty or resin acids, their esters with mono- or polyhydric alcs., aldehydes, ketones, amides, or alkanolamides of fatty acids, esters of alkanolamines with fatty acids, fatty acid nitriles, phenols, or aliphatic mercaptans. The preferred solvents are halogenated hydrocarbons. Oxidizable substances include MeOH, EtOH, paraldehyde, glucose, and ethylene glycol chlorohydrin. These substances are necessary if the organic complexing agent is not oxidizable during the reaction. The reaction is exothermic and may keep a low-boiling solvent boiling. Usually the complex is soluble and the solution is filtered and evaporated. The residue can be used in a hydrophilic solvent which may replace the original solvent in azeotropic distillation. The products, especially with a chain of 12C atoms, are excellent waterproofing agents, especially for textiles. For example, stearic acid, Na ₂ Cr ₂ O ₇ , CCl ₄ , and EtOH were refluxed with passage of dry HCl. The product was dried and dissolved in boiling iso-PrOH, cooled, and filtered. Fabric was waterproofed with an aqueous solution of the complex Cr salt, urea, NaO ₂ CH, and HCO ₂ H. | | | | |

L6 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1955:39485 CAPLUS <<LOGINID::20080602>>

DN 49:39485

OREF 49:7572d-g

TI Fatty aldehydes. II. Synthesis of amides using lithium aluminum hydride

AU Kaufmann, H. P.; Kirschnek, H.

CS Deut. Inst. Fettforschung, Munster, Westfalen, Germany

SO Fette und Seifen (1953), 55, 851-4

CODEN: FTSEAK; ISSN: 0367-3278

DT Journal

LA Unavailable

OS CASREACT 49:39485

AB Reduction of fatty acid derivs. to the corresponding aldehydes (II) with LiAlH₄ in THF was investigated. From acid chlorides, only the alcs. could be obtained. Fatty acid nitriles yielded some II; thus, stearonitrile gave 25% I in 48 h. at -60°. Reduction of saturated or unsatd. amides or imino ether-HCl salts gave no II. Reduction of N-arylamides (III) was the best of the methods investigated. The following III were obtained by boiling the acid chlorides with the secondary amines in xylene (amine, acid, m.p. of III): carbazole, stearic acid, 91°; phenothiazine, stearic acid, 86°; Ph₂NH, stearic acid, 71°; carbazole, oleic acid, 41°; carbazole, elaidic acid, 72°. The phenothiazine derivs. are most useful since they are more soluble in THF and the resulting phenothiazine is insol. in petr. ether. The yields are generally about 90%. The following is a general method: 4.66 g. N-stearylphenothiazine (dried over P₂O₅) is dissolved in 30 mL THF (distilled from LiAlH₄), 2.5 mL. M LiAlH₄ in Et₂O is added dropwise while cooling, and the solution is allowed to stand 3 h. at 0° with occasional shaking. A few drops EtOAc are added, the solution is decomposed with 100 mL. dilute HCl (0°) and 50 mL. Et₂O, the mixture is neutralized at once, the Et₂O layer is evaporated at low temperature in vacuo, and the residue is dissolved in cold petr. ether (only the aldehyde dissolves); yield 92%.

L6 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1950:25645 CAPLUS <<LOGINID::20080602>>

DN 44:25645

OREF 44:50381,5039a

TI Armour's star

AU Potts, Ralph H.; McBride, Gordon W.

CS Armour & Co., Chicago, IL

SO Chem. Eng. (1950), 57, 124-7,172-5

DT Journal

LA Unavailable

AB Description and flowsheet of Armour's new plant at McCook, Ill., for chemical production from fats, oils, and fatty acids. Principal products are fatty acids, nitriles, amides, amines, and amine derivs.

L6 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1948:5872 CAPLUS <<LOGINID::20080602>>

DN 42:5872

OREF 42:1322c-f

TI Piperidine compounds

PA Soc. pour l'ind. chim. a Bale.

DT Patent

LA Unavailable

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | GB 591992 | | 19470904 | GB 1944-11882 | 19440622 |

AB 4-Aryl-4-piperidinecarbonitriles and the corresponding esters, amides, and ketones are prepared by condensing an α -aryl γ -tert-amino fatty acid nitrile with a 1,2-alkylene halide in the presence of an acid-binding agent and then converting the CN group in the usual manner to esters, etc. α -Phenyl- γ -(benzylmethylamino)butyronitrile 52.8 g. is treated with powdered NaNH₂ 10 in ether 200 in a N atmospheric, then cooled with ice

and

mixed with (CH₂Br)₂ 40 parts. Stir 1 hr. at room temperature and 4-5 hrs. at 40°C. Upon neutralization 1-methyl-1-benzyl-4-phenyl-4-

cyanopiperidinium bromide, m. 245-60°, is obtained. Reduction with H and Pd black yields 1-methyl-4-phenyl-4-cyanopiperidine. Similarly 1,2-dimethyl-4-phenyl-4-cyanopiperidine, b0.7 107-10°, 1,2-dimethyl-4-phenyl-4-carbethoxypiperidine, b0.15 105-8°, 1-ethyl-4-phenyl-4-cyanopiperidine, b0.05 110-12°, and 1-methyl-4-(m-methoxyphenyl)-4-cyanopiperidine (I), b12 196-7°, m. 40°, are prepared. I heated with caustic gave 1-methyl-4-(m-methoxyphenyl)-4-piperidinecarboxylic acid, m. 272-4°; Et ester b12 195-7°. Preps. are given for 1-methyl-4-(m-methoxyphenyl)-4-piperidinecarboxamide, m. 133-5°, 1-methyl-4-(m-hydroxyphenyl)-4-piperidyl Pr ketone, m. 153-4° (HCl salt of m-methoxyphenylanalogue, m. 125-7°), 1-methyl-4-(m-acetoxyphenyl)-4-piperidyl Pr ketone-HCl, m. 172-4°, 1-methyl-4-(o-methoxyphenyl)-4-cyanopiperidine, m. 98-9° (HBr salt, m. 262-4°), 1-methyl-1-benzyl-4-(2,3-dimethoxyphenyl)-4-cyanopiperidinium bromide, m. 232-33.5°, 1-ethyl-4-phenyl-4-piperidyl Et ketone, b0.1 100°, and 1-methyl-4-(m-hydroxyphenyl)-4-piperidyl Me ketone, m. 158-9°. Cf. C.A. 42, 225f.

L6 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1938:66987 CAPLUS <<LOGINID::20080602>>

DN 32:66987

OREF 32:9402f-h

TI Therapeutically active amidines

IN Miescher, Karl; Urech, Ernst

PA Soc. pour l'ind chim. a Bale

DT Patent

LA Unavailable

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|------|
| PI | US 2131141 | | 19380927 | US | |
| AB | Phenyloxy alkylene amidines unsubstituted in the phenyl nucleus and substituted in the amino group of the amidine group by alkyl, phenalkyl or alkyl amino alkyl, the alkyl radicals being of the lower aliphatic series, are produced by using as the parent material a phenyloxy fatty acid nitrile, amide or thioamide which is not substituted in the phenyl nucleus and converting this compound into an amidine substituted at the amidine N. Phenoxyethenyl-β-phenylphenylethylamidinium-HCl m. 201-3° and is freely soluble in water. α - Phenoxybutenylidibutylamidinium - HCl m. 117-118°. General mention is made of other similar compds. | | | | |

L6 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1938:28246 CAPLUS <<LOGINID::20080602>>

DN 32:28246

OREF 32:3910h-i,3911a-c

TI Therapeutically-active amidines

PA Soc. pour l'ind. chim. a Bale

DT Patent

LA Unavailable

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|------|
| PI | GB 476611 | | 19371213 | GB | |
| AB | These are prepared from phenoxy fatty acid nitriles, amides or thioamides that are substituted in the Ph nucleus or from quinolyloxy fatty acid nitriles, amides or thioamides in which the oxy-fatty acid nitrile, amide or thioamide residue is a substituent of the isocyclic ring by (1) converting | | | | |

the nitrile into its imido-ether and treating it with NH₃ or a primary or secondary amine, (2) heating the nitrile with a salt of NH₃ or of a primary or secondary amine, (3) converting the amide into its imido-chloride and treating it with NH₃ or a primary or secondary amine or (4) causing the thioamide in free or nascent form to react with NH₃ or a primary or secondary amine. Among examples, (1) 2-methoxyphenoxyethenylamidine is obtained when 2-methoxyphenoxyacetonitrile is treated in cold alc. solution with HCl or HBr and the resulting acetimido-ether caused to react with NH₃, (2) 8-quinolylxyethenylamidine is prepared by introducing HCl into an alc. solution of 8-quinolylxyacetonitrile and treating the resulting acetimido-ether with NH₃ and (3) 2-methoxyphenoxyacetamide is heated with PCl₅ in xylene and the imido-chloride formed heated with NHEt₂ to give 2-methoxyphenoxyethenyl-as-diethylamidine. In Brit. 476,612, Dec. 13, 1937, addition to 476,611, amidines are prepared by the processes of 476,611 from phenoxy fatty acid nitriles, amides or thioamides that are not substituted in the Ph nucleus. Thus, phenoxyethenyl-β-phenylethylamidine is prepared by treating phenoxyacetimido-ether, made from acetonitrile, alc. and HCl, with β-phenylethylamine.

L6 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1938:25795 CAPLUS <<LOGINID::20080602>>

DN 32:25795

OREF 32:3595h-i,3596a

TI Fatty acid nitriles, amides and ketones for extreme-pressure lubricants

AU Ralston, A. W.; Christensen, C. W.; Hoffman, E. J.; Selby, W.; Conquest, V.

SO National Petroleum News (1936), 28(No. 50), 59-62

CODEN: NPNEAL; ISSN: 0027-9889

DT Journal

LA Unavailable

AB The preparation and lubricating properties of fatty acid nitriles, ketones, amides and thioamides are discussed. The nitriles are stable, readily prepared, very soluble in lubricants, noncorrosive and possess oiliness. Their polymerization produces substances analogous to heavy mineral oils, while cracking under pressure at 550°, gives lower nitriles and straight-chain hydrocarbons with pronounced penetrative properties. High-mol. aralkyl ketones are readily soluble in mineral oils and greases. Ketones containing the phenoxyphenyl radical, e. g., the C₁₇H₃₅ ketone, when added to mineral oils produce gels which liquefy under slight pressure. Owing to their limited solubility the amides are of little interest. Certain thioamides with marked polar properties and fair solubility were examined. The Faville-Le Valley machine and the Stephens consistometer were used for assessing oiliness and load-carrying capacity.